TABLE 2.2

CELLULAR TELEPHONE SERVICE: SURVEY RESULTS

		NUMBER OF SYSTEMS RESPONDING	PERCENT OF INDUSTRY SURVEYED	EMPLOYEES	SIX-MONTH REVENUES (THOUSANDS)	AVERAGE MONTHLY BILL
1984	DECEMBER	32	100.0%	1,404	$178,085	
1985	JUNE	65	100.0%	1,697	176,231	
	DECEMBER	101	100.0%	2,727	306,197	
1986	JUNE	122	96.0%	3,556	360,585	
	DECEMBER	160	95.3%	4,334	462,467	
1987	JUNE	192	88.0%	5,656	479,514	
	DECEMBER	297	97.2%	7,147	672,005	$96.83
1988	JUNE	409	99.9%	9,154	886,075	95.00
	DECEMBER	496	99.1%	11,400	1,073,473	98.02
1989	JUNE	513	99.1%	13,719	1,406,463	85.52
	DECEMBER	546	98.8%	15,927	1,934,132	89.30
1990	JUNE	554	98.8%	18,973	2,126,362	83.94
	DECEMBER	663	98.2%	21,382	2,422,458	80.90
1991	JUNE	905	96.4%	25,545	2,653,505	74.56
	DECEMBER	1,005	96.5%	26,327	3,055,017	72.74
1992	JUNE	1,129	96.3%	30,595	3,633,285	68.51
	DECEMBER	1,189	93.4%	34,348	4,189,441	68.68
1993	JUNE	1,110	92.2%	36,501	4,819,259	67.31
	DECEMBER	1,287	92.3%	39,775	6,072,906	61.48
1994	JUNE	1,242	92.7%	45,606	6,519,030	58.65
	DECEMBER	1,371	93.2%	53,902	7,710,890	56.21
1995	JUNE	1,330	93.9%	60,624	8,740,352	52.42
	DECEMBER	1,392	93.0%	68,165	10,331,614	51.00
1996	JUNE	1,346	92.2%	73,365	11,194,247	48.84
	DECEMBER	1,422	92.4%	84,161	12,440,724	47.70
1997	JUNE	1,785	94.9%	97,039	13,134,551	43.86

SOURCE: CELLULAR TELECOMMUNICATIONS INDUSTRY ASSOCIATION.

COMPLAINTS:

Telephone service differs from many other services because consumers don't always know the price or even the vendor of the service they used until well after the service has been rendered. Some companies have taken advantage of this uncertainty by "slamming" consumers (becoming the customers' telephone service provider without their knowledge or consent), using hidden charges, or using other deceptive practices.

When this happens, consumers often file a complaint with the FCC. During 1996, the Consumer Protection Branch of the FCC's Common Carrier Bureau's Enforcement Division processed 35,095 written complaints and inquiries.

The Consumer Protection Branch serves a complaint by issuing an "Official Notice of Informal Complaint" to all companies identified in the complaint that are in the FCC's jurisdiction, or that may assist in the resolution of the complaint. Service of a complaint does not always indicate wrongdoing. Table 3.1 lists the number of complaints served on each of the 83 companies served with 50 or more complaints during 1996.

Revenue information is included for a number of the listed companies. Long distance carriers with revenues over $109 million and incumbent local exchange carriers subject to the reporting requirements of the Commission are required to file public revenue figures. Carriers with less than $109 million in operating revenues are also required to file revenue figures, but these figures are not made public. Where possible, other sources of public information were used to identify a company's revenue.

The complaint ratio for each company is the number of complaints served divided by its total communications-related revenue (measured in millions of dollars). If a company served with more than 100 complaints in 1996 had less than $109 million in revenue and we could not determine its revenue from another public source, we calculated its complaint ratio based on $109 million of revenue. Our $109 million estimate for these carriers protects their privacy, but it also understates their true complaint ratios. Dividing their complaints by their true revenues would result in higher complaint ratios.

Of the 35,095 complaints processed by the Consumer Protection Branch in 1996, 36% involved slamming issues, 13% involved pay-per-call services, and 12% involved operator service provider rates and services. The remaining complaints covered a range of issues including international telephone rates, unsolicited calls or faxes and telemarketing.

TABLE 3.1

COMPANIES SERVED WITH 50 OR MORE COMPLAINTS IN 1996

Company	Complaints per Million Dollars of Revenue	Complaints	Revenue (Millions)	Notes
Local Telephone Companies of the Following Holding Companies				
ALLTEL Corporation	0.08	88	$1,169	(1)
Ameritech Corporation	0.12	1,404	11,615	(1)
Bell Atlantic Corporation	0.18	2,292	12,699	(1)
BellSouth Corporation	0.11	1,640	14,413	(1)
Cincinnati Bell, Inc.	0.09	56	651	(1)
Citizens Utilities Company	0.29	57	198	(1)
GTE Corporation	0.16	2,200	13,336	(1)
NYNEX Corporation	0.25	3,082	12,487	(1)
Pacific Telesis Group	0.27	2,269	8,350	(2)
Southern New England Telecommunications Corporation	0.14	192	1,363	(1)
SBC Communications, Inc.	0.18	1,712	9,631	(2)
United Telephone Company - Sprint Corporation	0.05	269	5,117	(1)
U S WEST, Inc.	0.18	1,756	9,831	(1)
Weighted Ratio: Local Exchange Carriers	0.17			
Carriers, Resellers and Billing Agents				
Absolute Telecommunications, Inc.	1.83	199	109	(3)
American Telecommunications, Inc.		69		
American Telesource International, Inc.	4.83	70	15	(4)
American Telnet, Inc.		79		
AMNEX, Inc.	6.70	785	117	(5)
AT&T Corp.	0.10	3,999	39,264	(6)
Atlas Communications	1.69	184	109	(3)
Billing Information Concepts, Inc.	3.80	4,935	1,300	(4)
Brittan Communications Inc.	2.29	250	109	(3)
Cherry Communications	0.32	112	354	(6)
Cleartel Communications	1.19	130	109	(3)
Coastal Telephone Company		77		
Colorado River Communications		86		
Combined Companies, Inc.		59		
Communication TeleSystems	2.32	454	196	(6)
ConQuest Operator Service		63		
Corporate Services	0.93	101	109	(3)
Crown Communications	1.35	147	109	(3)
E-Tel	1.09	119	109	(3)
Eastern Telecommunications, Inc.	1.56	170	109	(3)
Equal Net Corporation	10.07	612	61	(5)
Excel Telecommunications, Inc.	0.32	352	1,091	(6)
Frontier Communications International	0.35	544	1,563	(6)
Future Telephone Communications	2.28	249	109	(3)
GE Capital Communications	1.08	118	109	(3)
Great Lakes Telecommunications Corporation	1.63	178	109	(3)
Heartline Communications, Inc.	9.02	983	109	(3)
Home Owners Long Distance	1.33	145	109	(3)

TABLE 3.1

COMPANIES SERVED WITH 50 OR MORE COMPLAINTS IN 1996 (CONT'D)

Company	Complaints per Million Dollars of Revenue	Complaints	Revenue (Millions)	Notes
Integrated Tele Services	1.38	150	$109	(3)
Integretel	4.04	1,565	388	(4)
Intellicall Operator Services	0.65	50	77	(8)
Inter Continental Telephone	1.10	120	109	(3)
International Telemedia Associates, Inc.		978		(7)
International Telnet		66		
JTK Technologies		75		
L.D. Services, Inc.	2.76	301	109	(3)
LCI International Worldwide Telecommunications	0.23	252	1,103	(6)
LDM Systems Inc.	8.63	246	29	(9)
Long Distance Services (Virginia)	7.26	791	109	(3)
Long Distance Services, Inc. (Michigan)	4.14	451	109	(3)
Matrix Telecom	1.38	150	109	(3)
MCI Telecommunications Corporation	0.17	2,815	16,372	(6)
Midcom Communications, Inc.	0.91	136	149	(6)
National Accounts Long Distance, Inc.	3.23	352	109	(3)
National Telecom, USA	1.37	149	109	(3)
National Telephone And Communications, Inc.		54		
Nationwide Long Distance, Inc.	3.55	387	109	(3)
Network Service Center	1.73	189	109	(3)
OAN Services, Inc.	2.13	1,396	655	(4)
Omega Telecommunications		63		
One -2- One Communications		88		
Operator Communications, Inc.	10.16	1,107	109	(3)
OPTICOM Operator Services aka One Call	5.61	639	114	(6)
Pantel Communications		67		
Pilgrim Telephone, Inc.	2.43	265	109	(3)
Polar Communications Corporation		89		
Quest Communications	1.26	137	109	(3)
Sprint Communications Company, L. P.	0.16	1,250	7,944	(6)
TELCAM	8.22	83	10	(9)
Telco Communications Group	0.59	251	429	(6)
Telephone Billing Service		392		(7)
Texas Amtel	1.04	113	109	(3)
The Furst Group	3.56	388	109	(3)
Trans National Telephone	2.29	250	109	(3)
USLD Communications	1.04	196	188	(6)
US Teleconnect	2.22	242	109	(3)
VarTec Telecom, Inc.	0.23	108	470	(6)
Winstar Gateway Network	29.12	990	34	(8)
WKP Communications		66		
WorldCom, Inc.	0.22	979	4,485	(6)
Weighted Ratio: Non-Local Exchange Carriers	0.39			

Source: Industry Analysis Division and Enforcement Division, *Common Carrier Scorecard.*

SOURCES OF REVENUE DATA FOR TABLE 3.1

(1) United States Telephone Association, Holding Company Report 1997
(2 *Statistics of Communications Common Carriers*. Table 2.1.
(3) Carrier's revenue was not publicly reported. Carriers with more than $109 million in telecommunications revenue were required to publicly report their revenue. To calculate a ratio, $109 million was assumed if the carrier had more than 100 complaints. As a result, the carrier's reported complaint ratio will be lower than its true complaint ratio.
(4) Calendar year 1996 revenues were provided by a company representative.
(5) Total 1996 revenue from SEC forms 10-K and/or 10-Q.
(6) *Long Distance Market Shares, Second Quarter 1997*, released October 10, 1997, Table 5.
(7) Company identifies itself as a billing agent, but did not disclose its revenues to the FCC.
(8) 1996 telecommunications revenue from SEC forms 10-K and/or 10-Q.
(9) Dun & Bradstreet report.

CONSUMER EXPENDITURES:

The Bureau of Labor Statistics conducts surveys of consumer expenditures, in part, to develop weights for CPI indexes. Table 4.1 shows expenditures for telephone service for all consumer units.

About 2% of all consumer expenditures are devoted to telephone service. This percentage has remained virtually unchanged over the past 15 years, despite major changes in the telephone industry and in telephone usage. Average annual expenditures on telephone service increased from $325 per household in 1980 to $708 in 1995.

The information on average telephone expenditures can be used to estimate the average monthly bills for households with telephone service. This average was about $62 per month for 1995. Monthly bills have increased significantly since 1980, due partly to higher local rates, but primarily to more long distance calling. Residential toll calling grew by about 10% a year between 1985 and 1989 -- a period when toll rates declined dramatically. The average American household now spends more on long distance service than on basic local service, reflecting the growth in long distance calling since the AT&T divestiture in 1984.

TABLE 4.1

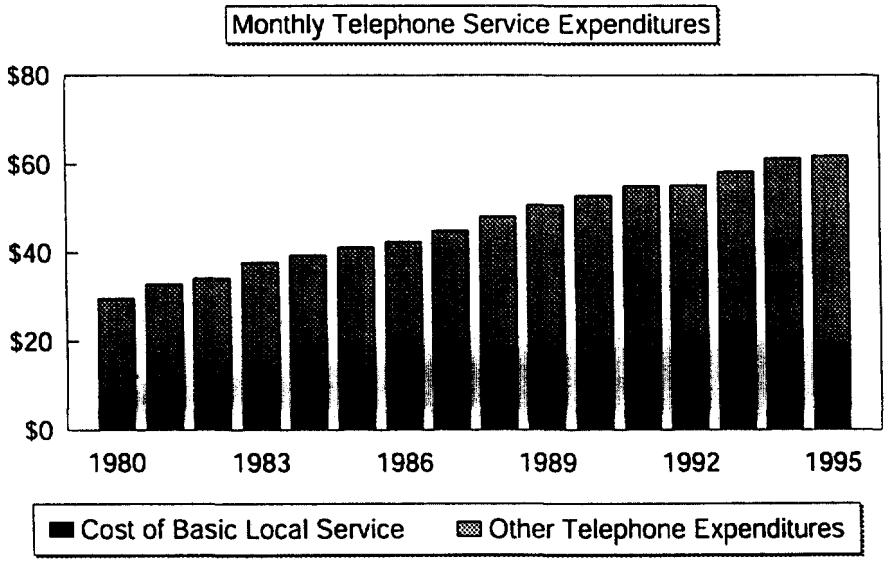
TELEPHONE SERVICE EXPENDITURES

Year	Annual Expenditures (Average for All Households)		Monthly Expenditures (Households with Telephone Service)		
	Telephone Expenditures	Percentage of Total Expenditures	Basic Local Service Charge *	Toll and Other Telephone Expenditures **	Total Telephone Expenditures
1980	$325	1.9 %	$8.74	$21	$30
1981	360	2.1	9.71	23	33
1982	375	2.1	10.75	23	34
1983	415	2.1	11.58	26	38
1984	435	2.0	13.35	26	40
1985	455	1.9	14.54	27	41
1986	471	2.0	16.13	26	43
1987	499	2.0	16.66	28	45
1988	537	2.1	16.57	32	48
1989	567	2.0	17.53	33	51
1990	592	2.1	17.79	35	53
1991	618	2.1	18.66	36	55
1992	623	2.1	18.70	37	55
1993	658	2.1	18.94	39	58
1994	690	2.2	19.07	42	61
1995	708	2.2	19.49	42	62

Source: Bureau of Labor Statistics.

* Monthly service charges for unlimited local service, taxes, and subscriber line charges.

** Calculated as total monthly bill minus the cost of basic local service. Figures may not add due to rounding. The "Toll and Other" category is primarily toll, but also includes charges for equipment, additional access lines, connection, touch-tone, call waiting, 900 service, directory listings, etc.



EMPLOYMENT:

The Bureau of Labor Statistics (BLS) publishes monthly data regarding the total number of employed workers in the communications industry. Specifically, BLS compiles employment statistics for the entire telephone communications industry (Standard Industrial Classification (SIC) 481) and for a subset of this industry, telephone communications minus radiotelephone (SIC 4813). The difference between these two figures yields the number of employees in the radiotelephone industry (SIC 4812).

SIC 4813 includes establishments primarily engaged in furnishing telephone voice and data communications, except radiotelephone and telephone answering services. SIC 4812 includes establishments primarily engaged in providing two-way radiotelephone communication services, such as cellular telephone service. It also includes telephone paging and beeper services. Neither of these categories includes employees from establishments primarily engaged in furnishing telephone answering services, manufacturing equipment, or engineering and research services.

Table 5.1 and the associated graph show the annual average employment figures in the telephone communications industry separately for SIC 4812 and SIC 4813 from 1951 to 1996. Since 1990, employment in the telephone communications industry has grown modestly. Most of the growth in employment over this period is the result of substantial increases in the radiotelephone (cellular, beepers, paging, etc.) industry, which grew at an annual average growth rate of approximately 20%.

BLS also calculates an annual telecommunications industry labor productivity index. The BLS index of labor productivity relates output to the employee hours expended in producing that output. This index, presented in Table 5.2, rose an average 5.8% per year from 1951-1995, with 1995 being the most recent data available. This average labor productivity factor is higher than the average in other industries (typically somewhere around 3 to 4%). This higher than average annual growth rate may be the result of telephone companies utilizing more efficient, advanced technology and increases in human capital. Table 5.2 and the associated graph illustrate the rising trend in telecommunications labor productivity since 1951.

TABLE 5.1

ANNUAL AVERAGE NUMBER OF EMPLOYEES IN THE TELEPHONE COMMUNICATIONS INDUSTRY (in thousands)

Year	Radiotelephone	All Other Telephone	Year	Radiotelephone	All Other Telephone	Year	Radiotelephone	All Other Telephone
1951	15.2	628.8	1967	19.0	787.5	1983 1/	23.8	986.5
1952	16.0	662.4	1968	19.2	793.2	1984	22.4	931.0
1953	16.6	685.6	1969	20.5	849.5	1985	21.6	899.1
1954	16.5	682.3	1970	22.2	919.9	1986 1/	20.7	862.7
1955	16.6	690.1	1971	22.4	929.2	1987	21.1	880.8
1956	17.7	733.5	1972	22.5	933.6	1988	23.2	877.9
1957	18.1	750.1	1973	23.2	958.0	1989 1/	29.9	856.0
1958	17.2	714.9	1974	23.6	977.2	1990	38.2	874.8
1959	16.7	690.4	1975	22.8	943.8	1991	45.6	863.6
1960	16.6	689.4	1976	22.5	930.7	1992	53.1	832.1
1961	16.3	677.0	1977	22.6	934.7	1993	63.1	815.9
1962	16.2	671.3	1978	23.4	971.4	1994	81.0	812.4
1963	16.2	669.3	1979	24.8	1023.4	1995 2/	102.5	797.2
1964	16.6	689.5	1980	25.3	1046.9	1996 2/	122.8	774.9
1965	17.3	717.9	1981	25.3	1052.0	1997 3/	141.3	780.4
1966	18.3	755.1	1982	25.3	1046.5			

1/ Due to Bell operating company employee strikes in 1983, 1986, and 1989, which lasted one month each, the reported annual average number of workers for those particular years is an average of the eleven months in which workers did not strike.

2/ The 1996 and 1997 figures include recent Bureau of Labor Statistic revisions.

3/ The 1997 figures are based on preliminary figures covering January through November of 1997.

Source: Bureau of Labor Statistics.

TABLE 5.2

LABOR PRODUCTIVITY INDEX FOR THE TELEPHONE COMMUNICATIONS INDUSTRY MEASURED IN OUTPUT PER HOUR (OPH)
(Base year 1987=100)

Year	OPH Index	Year	OPH Index	Year	OPH Index
1951	12.0	1966	30.3	1981	71.1
1952	12.4	1967	32.6	1982	73.8
1953	12.6	1968	34.7	1983	84.6
1954	13.2	1969	35.3	1984	84.5
1955	14.3	1970	35.6	1985	88.9
1956	14.6	1971	38.3	1986	95.0
1957	16.1	1972	40.1	1987	100.0
1958	18.2	1973	42.7	1988	106.2
1959	20.3	1974	45.0	1989	111.6
1960	21.4	1975	49.3	1990	113.3
1961	23.3	1976	53.6	1991	119.8
1962	24.8	1977	57.3	1992	127.7
1963	26.6	1978	60.6	1993	135.2
1964	27.8	1979	63.5	1994	141.6
1965	28.9	1980	67.6	1995	144.6

'ce: Bureau of Labor Statistics.

EQUAL ACCESS:

The BOCs serve slightly more than 75% of the nation's telephone lines and are obligated to offer equal access (i.e., "1-plus" dialing) to all long distance carriers. The BOCs have converted almost all of their lines to equal access, although there are a few lines at smaller, older offices where equal access is being provided as the offices are converted to more modern equipment. Independent telephone companies, which serve almost 25% of the nation's lines, have converted almost 98% of their lines.

Table 6.1 shows the number of telephone lines and the percentage of these lines converted to equal access since divestiture. BOCs converted almost half of their lines between December 1984 and December 1985, and an additional 40% in the next three years. Including independents, the United States reached 99% equal access conversion by mid-1996.

Table 6.2 shows the number of central office wire centers in each state that had been converted to equal access as of November 1, 1997. The table is derived from NECA's Tariff 4 database, which is updated by local exchange carriers. In some cases, there is a lag between an office converting to equal access and that change being reflected in the database. Thus, in some cases, the data continue to show some offices not yet converted to equal access even in states where equal access is reported to be available to all customers. Because the non-equal access offices tend to be smaller offices, the percentage of converted lines is significantly greater than the percentage of converted offices.

TABLE 6.1

DEVELOPMENT OF EQUAL ACCESS

(PRESUBSCRIBED ACCESS LINES IN THOUSANDS)

	BELL COMPANIES		OTHER COMPANIES		TOTAL	
	LINES	% EQUAL ACCESS	LINES	% EQUAL ACCESS	LINES	% EQUAL ACCESS
1984 JUNE	84,321	0	26,278	0.00	110,599	0.0
DECEMBER	85,457	4	26,633	1.00	112,090	3.1
1985 JUNE	86,609	27	26,992	2.48	113,601	21.1
DECEMBER	87,777	51	27,355	3.45	115,132	39.6
1986 JUNE	88,960	62	27,724	13.64	116,684	50.4
DECEMBER	90,159	74	28,098	27.99	118,257	63.3
1987 JUNE	91,374	78	28,477	37.68	119,851	68.2
DECEMBER	92,606	85	28,860	47.77	121,467	75.9
1988 JUNE	93,520	87	29,145	51.58	122,665	78.9
DECEMBER	94,813	91	29,548	56.32	124,361	83.0
1989 JUNE	96,632	93	30,115	59.59	126,747	85.4
DECEMBER	98,214	94	30,268	60.75	128,482	86.2
1990 JUNE	99,815	95	30,962	63.77	130,777	87.6
DECEMBER	100,993	97	31,416	70.63	132,409	90.6
1991 JUNE	102,027	97	31,870	73.45	133,896	91.7
DECEMBER	103,102	98	32,185	77.52	135,287	93.4
1992 JUNE	104,060	99	32,643	80.67	136,704	94.5
DECEMBER	105,744	99	32,981	84.50	138,725	95.8
1993 JUNE	107,084	99	33,531	86.64	140,615	96.3
DECEMBER	108,847	100	33,963	89.12	142,809	97.1
1994 JUNE	110,583	100	34,646	90.60	145,229	97.6
DECEMBER	113,092	100	35,387	92.20	148,479	98.0
1995 JUNE	114,827	100	35,518	94.40	150,335	98.6
DECEMBER	116,344	100	36,258	95.70	152,602	98.9
1996 JUNE	119,119	100	36,883	96.80	156,002	99.2
DECEMBER	120,910	100	37,763	97.60	158,672	99.4

TABLE 6.2

CENTRAL OFFICES CONVERTED TO EQUAL ACCESS

(as of November 1, 1997)

	Bell Company Central Offices			Other Central Offices			Bell & Other Central Offic	
	Equal Access	Non-Equal Access	% Equal Access	Equal Access	Non-Equal Access	% Equal Access	Total Offices	% Equal Access
Alabama	149	0	100.0 %	209	10	95.4 %	368	97.3 %
Alaska	0	0	N.A.	40	215	15.7	255	15.7
Arizona	156	0	100.0	78	29	72.9	263	89.0
Arkansas	144	0	100.0	240	36	87.0	420	91.4
California	715	0	100.0	386	14	96.5	1115	98.7
Colorado	187	2	98.9	94	24	79.7	307	91.5
Connecticut	1	0	100.0	142	0	100.0	143	100.0
Delaware	33	0	100.0	0	0	N.A.	33	100.0
District of Columbia	37	0	100.0	0	0	N.A.	37	100.0
Florida	213	0	100.0	275	17	94.2	505	96.6
Georgia	253	0	100.0	236	14	94.4	503	97.2
Guam	0	0	N.A.	16	0	100.0	16	100.0
Hawaii	0	0	N.A.	90	12	88.2	102	88.2
Idaho	83	0	100.0	102	16	86.4	201	92.0
Illinois	260	54	82.8	671	78	89.6	1063	87.6
Indiana	169	5	97.1	395	23	94.5	592	95.3
Iowa	152	0	100.0	666	19	97.2	837	97.7
Kansas	186	0	100.0	380	37	91.1	603	93.9
Kentucky	180	0	100.0	201	18	91.8	399	95.5
Louisiana	234	0	100.0	91	14	86.7	339	95.9
Maine	145	1	99.3	112	9	92.6	267	96.3
Maryland	221	0	100.0	1	0	100.0	222	100.0
Massachusetts	283	2	99.3	3	0	100.0	288	99.3
Michigan	329	30	91.6	332	42	88.8	733	90.2
Minnesota	193	0	100.0	535	22	96.1	750	97.1
Mississippi	208	0	100.0	51	12	81.0	271	95.6
Missouri	268	0	100.0	337	150	69.2	755	80.1
Montana	81	0	100.0	149	56	72.7	286	80.4
Nebraska	78	0	100.0	350	48	87.9	476	89.9
Nevada	22	28	44.0	53	21	71.6	124	60.5
New Hampshire	126	1	99.2	27	2	93.1	156	98.1
New Jersey	217	0	100.0	27	1	96.4	245	99.6
New Mexico	72	0	100.0	71	52	57.7	195	73.3
New York	591	1	99.8	299	18	94.3	909	97.9
North Carolina	144	0	100.0	349	25	93.3	518	95.2
North Dakota	49	0	100.0	143	109	56.7	301	63.8
Ohio	237	17	93.3	523	91	85.2	868	87.6
Oklahoma	236	0	100.0	285	37	88.5	558	93.4
Oregon	97	0	100.0	212	17	92.6	326	94.8
Pennsylvania	407	0	100.0	404	50	89.0	861	94.2
Puerto Rico	0	0	N.A.	89	0	100.0	89	100.0
Rhode Island	30	0	100.0	0	0	N.A.	30	100.0
South Carolina	119	0	100.0	158	2	98.8	279	99.3
South Dakota	50	0	100.0	200	16	92.6	266	94.0
Tennessee	204	0	100.0	148	33	81.8	385	91.4
Texas	660	1	99.8	941	39	96.0	1641	97.6
Utah	82	0	100.0	51	37	58.0	170	78.2
Vermont	92	2	97.9	37	7	84.1	138	93.5
Virgin Islands	0	0	N.A.	0	6	0.0	6	0.0
Virginia	233	0	100.0	246	7	97.2	486	98.6
Washington	143	0	100.0	259	10	96.3	412	97.6
West Virginia	150	0	100.0	79	10	88.8	239	95.8
Wisconsin	139	1	99.3	506	2	99.6	648	99.5
Wyoming	30	0	100.0	29	28	50.9	87	67.8
Total United States	9,088	145	98.4 %	11,318	1,535	88.1 %	22,086	92.4 %

* The Information in this table is based on the NECA FCC Tariff No. 4 database. Some companies do not report information on their remote switches in Tariff No. 4. As a result, central office counts may be lower than reported in other sources.

INTERNATIONAL TELEPHONE SERVICE:

International telecommunications has become an increasingly important segment of the telecommunications market. International telephone calling -- propelled by technological innovation, increased international trade and travel, and stable or declining international telephone rates -- has skyrocketed. The number of calls increased from 200 million in 1980 to 3.5 billion in 1996. In 1996, Americans spent about $14 billion on international calls. International private line revenues have also increased since 1980, but telex and telegraph services declined substantially over the same period. These trends are shown in Table 7.1.

U.S. and foreign carriers compensate each other when one carries traffic that the other bills. The number of calls billed in the United States increased at a faster pace than calls billed in foreign countries, contributing to rapid increases in net settlement payments to foreign carriers. These net payments from the United States to other countries reached $5.6 billion in 1996. On average, carriers billed $.74 per minute for international calls in 1996 and paid $.43 per billed minute in settlements. Trends in settlement payments are shown in Table 7.2. On average, for all traffic, carriers retained $.30 for each international minute that they handled in 1996.

International traffic data is available on a country-by-country basis. Table 7.3 summarizes traffic by region of the world. Five markets -- Canada, Mexico, the United Kingdom, Germany, and Japan -- currently account for about half of the international calls billed in the United States.

Since 1985, when MCI first entered the market in competition with AT&T, numerous carriers have begun to provide international service. Forty-seven carriers provided international telecommunications service in 1996 by using their own facilities or lines leased from other carriers. These carriers billed $15 billion for international services, of which $14 billion was for telephone service. Table 7.4 shows the U.S.-billed revenues for each of the 47 carriers. Together, AT&T, MCI, and Sprint account for 95% of the facilities-based international service billed in the United States.

In addition to the 42 carriers that owned or leased facilities, about 300 carriers reported the resale of international message telephone service. These carriers reported $3.5 billion of resale revenue in 1996. The revenues for the fifty largest resellers are shown in Table 7.5.

TABLE 7.1

INTERNATIONAL SERVICE FROM UNITED STATES TO FOREIGN POINTS
(Minute, message, and revenue amounts shown in millions)

	Telephone Service					Other Services			
			Billed Revenue			Billed Revenue			
	Minutes	Messages	Total	Per minute *	Per call	Telex	Telegraph	Private Line	Misc.
1980	1,569	199	$2,097	$1.34	$10.53	$325	$63	$115	
1981	1,857	233	2,239	1.21	9.61	350	62	126	
1982	2,187	274	2,382	1.09	8.70	363	56	138	
1983	2,650	322	2,876	1.09	8.92	379	54	154	
1984	3,037	367	3,197	1.05	8.71	394	46	158	
1985	3,350	411	3,435	1.03	8.37	415	45	172	
1986	3,917	482	3,891	0.99	8.07	390	42	175	
1987	4,480	570	4,559	1.02	8.00	360	35	191	
1988	5,190	687	5,507	1.06	8.02	310	30	194	
1989	6,109	835	6,517	1.07	7.80	243	27	208	
1990	7,215	984	7,626	1.06	7.75	196	24	201	
1991	8,986	1,371	9,096	1.01	6.63	200	15	303	$23
1992	10,156	1,643	10,179	1.00	6.20	155	16	313	24
1993	11,393	1,926	11,353	1.00	5.89	135	12	365	23
1994	13,393	2,313	12,255	0.92	5.30	123	12	432	55
1995	15,837	2,821	13,990	0.88	4.96	119	6	432	55
1996	19,119	3,485	14,079	0.74	4.04	119	5	649	26

TABLE 7.2

INTERNATIONAL TELEPHONE SERVICE SETTLEMENTS
(Revenue amounts shown in millions)

							Average per Minute		
	Billed Revenue	Owed to Foreign Carriers	Retained Revenue	Due from Foreign Carriers	Net Settlements	Net Revenue	Settlement Owed for U.S. Billed Calls	Settlement Due for Foreign Billed Calls	Net Revenue All Traffic
1980	$2,097	$1,063	$1,034	$716	($347)	$1,750	$0.68	$0.62	$0.64
1981	2,239	1,330	910	799	(531)	1,708	0.72	0.56	0.52
1982	2,382	1,674	708	961	(712)	1,670	0.77	0.60	0.44
1983	2,876	2,036	841	1,086	(950)	1,926	0.77	0.60	0.43
1984	3,197	2,269	928	1,066	(1,203)	1,994	0.75	0.54	0.40
1985	3,435	2,369	1,066	1,239	(1,130)	2,305	0.71	0.55	0.41
1986	3,891	2,802	1,089	1,387	(1,414)	2,476	0.72	0.56	0.39
1987	4,559	3,309	1,250	1,634	(1,675)	2,884	0.74	0.61	0.39
1988	5,507	3,868	1,640	1,840	(2,028)	3,480	0.75	0.62	0.41
1989	6,517	4,513	2,004	2,115	(2,398)	4,119	0.74	0.61	0.42
1990	7,626	5,079	2,547	2,317	(2,762)	4,863	0.70	0.60	0.42
1991	9,096	5,792	3,304	2,493 **	(3,298)	5,798	0.64	0.47	0.42
1992	10,179	5,945	4,234	2,601 **	(3,344)	6,835	0.59	0.43	0.43
1993	11,353	6,327	5,027	2,678 **	(3,649)	7,704	0.56	0.39	0.44
1994	12,255	6,947	5,308	2,658 **	(4,289)	7,966	0.52	0.35	0.39
1995	13,990	7,559	6,432	2,623 **	(4,936)	9,054	0.48	0.29	0.39
1996	14,079	8,206	5,873	2,560 **	(5,645)	8,434	0.43	0.27	0.30

Sources: Industry Analysis Division, *Trends in the International Telecommunications Industry* and *Section 43.61 International Telecommunications Data.*

* Billed revenue per minute for international service differs in Table 14.3 and Table 7.1. Data in Table 14.3 is based on traffic to foreign points for all U.S. carriers serving all U.S. points. Data for Table 7.1 is based on traffic for domestic U.S. points only. The domestic U.S. includes Puerto Rico but excludes American Samoa, Guam, the Northern Mariana Islands, and the U.S. Virgin Islands.

** Includes transiting traffic.

TABLE 7.3

INTERNATIONAL MESSAGE TELEPHONE SERVICE FOR 1996

(Figures rounded to the nearest million)

International Point	Traffic Billed in the United States					Traffic Billed in Foreign Countries				Total U.S. Carrier
						Originating or Terminating in the United States			TRANSITING	
	Number of Messages	Number of Minutes	U.S. Carrier Revenue	Owed to Foreign Carriers	Retained Revenue	Number of Messages	Number of Minutes	Due from Foreign Carriers	Retained Revenue	Retained Revenue
Western Europe	787	4,073	$2,719	$856	$1,862	509	1,970	$433	$32	$2,327
North and Central America	1,207	6,399	3,388	1,879	1,510	887	3,876	614	7	2,130
Asia	659	3,756	3,448	2,437	1,011	247	1,015	607	31	1,649
South America	294	1,583	1,346	980	366	94	388	240	11	617
Caribbean	199	1,237	1,045	627	418	86	363	170	5	593
Eastern Europe	77	535	549	335	215	29	125	84	7	306
Oceania	78	411	353	123	231	43	216	59	10	301
Middle East	103	655	692	569	123	41	178	150	20	293
Africa	90	522	563	382	181	25	88	62	19	262
Other Regions	2	4	30	27	4	1	5	4	*	8
Total for Foreign Points	3,485	19,119	14,079	8,206	5,873	1,957	8,195	2,418	142	8,433
Total for U.S. Points	10	57	56	9	47	4	28	5	1	53
Total for all International Points	3,495	19,176	14,135	8,215	5,920	1,962	8,223	2,424	143	8,486

Source: Industry Analysis Division, *Section 43.61 International Telecommunications Data.*

The region totals include all traffic reported by carriers serving Alaska, Hawaii, Puerto Rico, and the conterminous United States, and include traffic between these points and offshore U.S. points such as Guam and the U.S. Virgin Islands. This traffic is shown separately as the total for U.S. points, and also is included in the total for all international points.

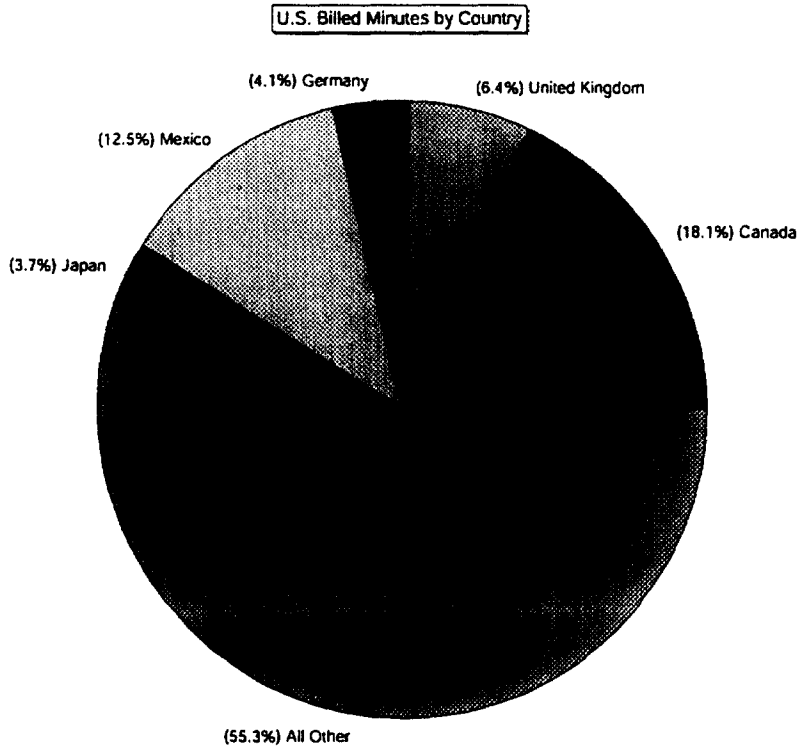


TABLE 7.4

U.S. BILLED REVENUES OF FACILITIES-BASED AND FACILITIES-RESALE CARRIERS IN 1996 *

(Revenue amounts shown in millions)

	International Service					Total International Billed Revenue
	Telephone	Telex	Telegraph	Private Line	Miscellaneous	
ACC Global Corp.	2					2
American Samoa Office of Communications	3					3
AmericaTel Corporation				2		2
Asian American Telcom	**			**	**	**
AT&T Corp.	8,559	73	3	261	5	8,901
BT North America, Inc.	**			5		5
Cable & Wireless, Inc.	12			5		17
Communication TeleSystems International	17					17
Comsat Corporation				6	2	8
Cyberlink, Inc.				**		**
DirectNet Telecommunication	1			4		5
Esprit Telecom (U.K.), Ltd.	7					7
FaciliCom International, L.L.C.	4					4
Fedex International Transmission Corporation				**		**
fONOROLA Corporation	20					20
Geocomm Corporation				1		1
Golden Pages (Jersey) Ltd.	21					21
GTE Corporation	27			2	**	30
Harris Corporation	2					2
Impsat USA, Inc.				1		1
Intermedia Communications Inc.					**	**
IT&E Overseas, Inc.	40			1		41
Local Communications Network, Inc.				5		5
MCI / Western Union International	3,550	36	2	190	1	3,778
Melbourne International Comm., Ltd.	1			1		2
Micronesian Telecommunications Corp.	17	**		1		18
MicroNet, Inc.					1	1
Mobile Satellite Communications, Inc.				2	**	2
Northern Communications, Inc.				**		**
Overseas Telecommunications, Inc.				2		2
Pacific Gateway Exchange, Inc.	34			**		35
PanAmSat Comm. Carrier Services, Inc.				**		**
PSO, Inc. d/b/a Canal Uno					**	**
RSL COM U.S.A., Inc	21			1		22
Satellite Communication Systems, Inc.	**			3		4
Sprint	1,493	3		60	15	1,571
Startec Inc.	7					7
T-One Communications Corporation	1					1
Telecomunicaciones Ultramarinas-Puerto Rico				2		2
Telefonica Larga Distancia, Inc.	19			**		19
TerraLink Communications, Ltd.	2					2
The Associated Group, Inc.				**		**
The Williams Companies, Inc./VYVX, Inc.					2	2
TresCom International, Inc.	4			**		4
USFI, INC.	**					**
Viatel Global Communications/YYC Corp.	6					6
WorldCom, Inc. d/b/a LDDS WorldCom	364	7	**	105		475
Total for the 47 companies shown ***	$14,233	$119	$5	$658	$26	$15,043

* Totals exclude pure resale services.

** Represents revenues greater than $0 but less than $500,000.

*** Table 7.4 includes revenue for American Samoa, Guam, the Northern Mariana Islands, and the U.S. Virgin Islands. Other tables in this section exclude this traffic. U.S. carriers billed $165 million for telephone service for these points and $14,879 million for domestic U.S. points. These figures add to the $15,043 total shown in this table.

TABLE 7.5

TOP PROVIDERS OF PURE RESALE INTERNATIONAL MTS IN 1996

	Number of Messages	Number of Minutes	U.S. Carrier Revenue	Percent of total IMTS Resale Revenue
WorldCom, Inc. d/b/a LDDS WorldCom	182,997,850	817,597,796	411,320,545	11.900%
Cable & Wireless	169,151,643	690,269,622	298,022,074	8.622%
Cherry Communications Incorporated	141,807,214	673,698,496	273,433,852	7.911%
USA Global Link, Inc.	106,162,096	360,951,126	241,640,921	6.991%
Star Telecommunications, Inc.	100,435,628	479,681,377	205,693,423	5.951%
Telegroup, Inc.	72,750,490	317,192,135	179,809,874	5.202%
Frontier Corporation	52,185,195	202,471,860	164,457,370	4.758%
LCI International Telecom Corp.	77,176,500	308,706,000	154,669,000	4.475%
Pacific Gateway Exchange, Inc.	89,287,141	397,227,557	127,021,971	3.675%
WorldxChange Communications	86,574,413	423,697,204	126,103,737	3.648%
TresCom International, Inc.	46,302,529	227,128,259	110,659,199	3.201%
Excel Telecommunications, Inc.	12,442,140	100,607,163	90,713,526	2.624%
Sprint	18,522,100	97,141,128	87,178,428	2.522%
PhoneTime, Inc.	40,435,049	222,392,771	81,462,472	2.357%
ACC Long Distance Corp.	25,999,637	119,644,604	44,170,562	1.278%
MCI International, Inc.	7,641,031	45,958,200	42,139,500	1.219%
Viatel Global Communications/YYC Corp.	12,024,160	43,809,687	37,818,053	1.094%
USFI, Inc.	18,250,939	73,710,510	36,499,000	1.056%
National Telephone & Communications, Inc.	5,102,985	39,758,763	36,196,033	1.047%
Capital Network System, Inc.	1,342,710	6,321,121	30,151,747	0.872%
Telco Communications Group, Inc.	3,228,471	25,100,526	26,736,068	0.773%
Access Authority, Inc.	10,002,732	93,872,807	25,473,244	0.737%
STARTEC Inc.	7,057,698	35,288,491	24,349,059	0.704%
Gateway Worldwide Communications Inc.	3,929,091	17,433,461	24,073,006	0.696%
RSL COM U.S.A., Inc.	8,419,604	56,057,178	23,823,225	0.689%
T-One Communications Corporation	15,724,708	62,431,009	22,334,538	0.646%
VarTec Telecom, Inc.	3,405,423	26,730,141	19,408,822	0.562%
Brittan Communications International Corporation (BCI)	2,003,177	14,799,236	19,072,823	0.552%
URSUS Telecom Corporation	3,865,017	14,303,909	18,863,956	0.546%
GTE	3,614,601	12,820,759	17,568,802	0.508%
MATRIX Telecom	2,886,090	18,699,423	16,965,361	0.491%
Cyberlink, Inc.	6,986,424	34,383,850	16,642,552	0.481%
Primus Telecommunications, Inc.	5,708,859	28,132,085	13,871,137	0.401%
Call Concepts Corporation	5,704,913	26,217,132	13,434,065	0.389%
FaxSav Incorporated	9,174,204	15,536,638	12,970,988	0.375%
Working Assets Funding Services, Inc.	1,693,301	13,984,085	12,569,936	0.364%
FaciliCom International, L.L.C.	3,197,736	21,128,492	12,370,474	0.358%
Tel-Save, Inc.	3,454,233	12,253,035	12,138,956	0.351%
U.S. Long Distance Inc.	2,856,352	11,095,030	12,113,737	0.350%
Telefonica Larga Distancia (TLD)	981,593	6,590,495	11,706,963	0.339%
Qwest Communications Corporation	4,831,447	22,377,945	11,374,707	0.329%
IMTS, Inc. d/b/a Telenational Communications	4,031,329	17,951,686	11,023,580	0.319%
Home Owners Long Distance, Inc. (HOLD)	6,579,139	39,845,318	10,770,592	0.312%
National Telecommunications of Florida	4,661,037	15,975,016	9,673,261	0.280%
Coast International Telecommunications	3,160,021	14,082,054	9,396,834	0.272%
Rapid Link, USA	3,497,829	42,473,409	8,825,420	0.255%
Intermedia Communications Inc.	5,072,021	17,752,072	8,609,755	0.249%
Prairie Systems, Inc.	8,059,269	17,940,521	8,273,485	0.239%
General Communications Corp. (GCI)	1,023,019	7,372,316	8,220,648	0.238%
TeleData International, Inc.	1,952,981	8,304,360	8,121,094	0.235%
Carriers not Shown Above	95,315,010	383,882,047	$226,625,409	6.6%
Total	1,508,668,779	6,782,779,905	$3,456,563,784	

Source: Industry Analysis Division, *Section 43.61 International Telecommunications Data.*

LIFELINE AND UNIVERSAL SERVICE PROGRAMS:

The FCC has established two assistance programs for low-income subscribers. The first program is designed to assist low-income subscribers afford the monthly cost of local telephone service and is called "lifeline." Connection assistance or "Link-Up" programs, the second type, are designed to help low-income subscribers defray installation charges in order to begin receiving telephone service. Participating states have wide latitude in selecting means tests and shaping the benefits of the programs. Programs have been established in all 50 states, the District of Columbia, the Virgin Islands, and the Commonwealth of Puerto Rico. The type of program in each state at the end of 1997 is indicated in Table 8.1, along with the year in which a program was first certified.

On May 7, 1997, the Commission voted to make major changes which became effective on January 1, 1998. These changes expand Lifeline to make it available in all states and territories, modify the state matching requirements, and increase the federal Lifeline support amount.

In addition to the programs for low-income subscribers, a Universal Service Fund provides support to local telephone companies that have high costs. Through the end of 1997, all of these assistance programs were financed by monthly charges imposed on larger long distance carriers. Each long distance carrier serving more than .05% of the nation's telephone lines was billed monthly on a per-line basis to support these programs. These charges are shown in Table 8.2. Under the rules taking effect on January 1, 1998, the per-line charges previously paid by long distance carriers have been discontinued. Instead, all providers of interstate telecommunications, now contribute to the provision of universal service based on the amount of their telecommunications revenues.

TABLE 8.1

LIFELINE AND LINK-UP TELEPHONE PROGRAMS
(YEAR FIRST CERTIFIED)

STATE	LIFELINE	LINK-UP
ALABAMA	95	87
ALASKA	93	93
ARIZONA	86	88
ARKANSAS	86	87
CALIFORNIA	85	*
COLORADO	90	90
CONNECTICUT	94	87
DELAWARE		95
DISTRICT OF COLUMBIA	86	87
FLORIDA	94	88
GEORGIA	91	90
HAWAII	86	89
IDAHO	87	88
ILLINOIS	**	93
INDIANA		88
IOWA		88
KANSAS	96	88
KENTUCKY		87
LOUISIANA		88
MAINE	87	87
MARYLAND	86	87
MASSACHUSETTS	90	90
MICHIGAN	89	89
MINNESOTA	88	88
MISSISSIPPI	91	88
MISSOURI	87	87
MONTANA	87	87
NEBRASKA		88
NEVADA	87	88
NEW HAMPSHIRE		88
NEW JERSEY		87
NEW MEXICO	87	87
NEW YORK	87	87
NORTH CAROLINA	86	87
NORTH DAKOTA	87	89
OHIO	87	87
OKLAHOMA	95	90
OREGON	86	88
PENNSYLVANIA	95	88
PUERTO RICO		88
RHODE ISLAND	87	87
SOUTH CAROLINA	95	87
SOUTH DAKOTA	88	88
TENNESSEE	92	88
TEXAS	88	87
UTAH	86	88
VERMONT	86	90
VIRGIN ISLANDS U.S.	91	91
VIRGINIA	87	87
WASHINGTON	87	90
WEST VIRGINIA	86	87
WISCONSIN	88	90
WYOMING	91	89

SOURCE: INDUSTRY ANALYSIS DIVISION CERTIFICATION PROGRAM.

* CALIFORNIA PROVIDES AN INDEPENDENT CONNECTION ASSISTANCE PROGRAM.
** ILLINOIS COMMERCE COMMISSION'S PROGRAM RELIES ON VOLUNTARY CONTRIBUTIONS.

TABLE 8.2

MONTHLY CHARGES TO LONG DISTANCE CARRIERS FOR LIFELINE AND UNIVERSAL SERVICE PROGRAMS

Rates in Effect		Monthly Charges per Access Line			Access Lines * (millions)	Approximate Monthly Billing ($ millions)
From	To	Universal Service Fund	Lifeline Link-Up Programs	Total Charge per Access Line		
04/01/89	06/30/89	$0.1753	$0.0467	$0.2220	121.1	$26.35
07/01/89	12/31/89	0.1752	0.0556	0.2308	121.3	27.44
01/01/90	06/30/90	0.2476	0.0366	0.2842	123.1	34.29
07/01/90	12/30/90	0.2367	0.0412	0.2779	125.4	34.15
01/01/91	01/31/91	0.2696	0.0593	0.3289	126.9	40.90
02/01/91	06/30/91	0.3090	0.0593	0.3683	126.9	45.80
07/01/91	12/31/91	0.3185	0.0534	0.3719	129.0	47.02
01/01/92	06/30/92	0.3823	0.0789	0.4612	130.6	59.03
07/01/92	12/31/92	0.3901	0.0733	0.4634	132.0	59.95
01/01/93	01/31/93	0.4404	0.0777	0.5181	133.0	67.53
02/01/93	06/31/93	0.4624	0.0777	0.5401	133.0	70.40
07/01/93	12/31/93	0.4561	0.0809	0.5370	136.4	71.78
01/01/94	01/31/94	0.4520	0.0841	0.5361	138.2	74.09
02/01/94	06/30/94	0.4408	0.0841	0.5249	138.2	72.54
07/01/94	12/31/94	0.4295	0.0901	0.5196	140.0	72.74
01/01/95	06/30/95	0.4335	0.0848	0.5183	142.2	73.70
07/01/95	12/31/95	0.4214	0.0936	0.5150	145.3	74.83
01/01/96	06/30/96	0.4182	0.0928	0.5110	147.0	75.12
07/01/96	12/31/96	0.4365	0.0947	0.5312	149.2	79.26
01/01/97	06/30/97	0.4380	0.0991	0.5371	152.1	81.69
07/01/97	12/31/97	0.4315	0.0829	0.5144	154.5	79.47

* Billings are made by the National Exchange Carrier Association to interexchange carriers that have more than .05% of the nationwide total presubscribed lines. These carriers serve approximately 98% of total presubscribed lines. The 154.5 million access lines shown for July 1, 1997 are the number of qualified USF loops of billed carriers contributing to the Universal Service Fund.

LOCAL COMPETITION:

For most of this century, households and businesses have had no choice in selecting their local telephone company. Mobile telephone services are widely available, at an increasing range of prices, but they are not yet accepted in the marketplace as complete substitutes for traditional local telephone service. In the 1980s, new companies began to offer some competitive local telephone services over wired networks. These companies (e.g., MFS Communications Company and Teleport Communications Group) typically built telecommunications network facilities in areas with concentrations of office buildings and offered to carry calls between business customers and the networks of long distance carriers. These companies were often called "competitive access providers" or CAPs. To some extent they also carried local telephone calls among their customers, but they did not offer local calling services to the public generally.

In the 1990s, some of these competitive access providers, other companies including affiliates of cable television companies (e.g., Hyperion Telecommunications, Time Warner Communications) and local service divisions of long distance companies (e.g., MCImetro), began to offer local telephone calling services to a broader range of telephone users. For example, some companies that were already established in larger cities added operations in smaller cities, where the typical customer is more likely to be a small or medium size business than a large business, and some new companies (e.g., McLeodUSA Incorporated) focused on smaller cities from the beginning. The newer competitors are often called "competitive local exchange carriers" or CLECs, although the terms CAPs and CLECs are often used interchangeably.

While local telephone service competition has tended to develop first in larger cities and for business customers, data reported to the Commission do not measure systematically such market-by-market evolution of competition. The Commission imposes no data reporting requirements on new local service competitors beyond the requirement, which applies to all telecommunications companies, to report their nationwide revenues each year, and the information provided by individual companies receives confidential treatment. Information about local service revenues earned by categories of companies is made public, however, and is discussed below.

The Commission also surveys investment in fiber optic transmission systems by new local service competitors and by the established, or incumbent, local telephone companies. Finally, the Commission has required the largest incumbent local telephone companies to report limited information about the extent of interconnection between their networks and the networks of the new local service competitors. These data also are discussed below.

Nationwide Local Service Revenues and New Competitor Share.

Table 9.1 shows that local service revenues of new local service competitors have been growing much faster than the local service revenues of the incumbent local telephone companies. The new local service competitors are starting from a very small base, however, so their share of total local service revenues remains small.

Facilities Investment of New Local Service Competitors:
Fiber Optic Transmission Capacity.

Chart 9.1 depicts the comparative investment in fiber optic transmission systems by new local service competitors and the incumbent local telephone companies in recent years. The new competitors doubled the total amount of fiber they had in place from approximately 0.6 million fiber miles at the end of 1995 to about 1.3 million fiber miles at the end of 1996. In contrast, the incumbent local telephone companies had in place about 12.3 million fiber miles in 1996, an increase of approximately 15% over year-end 1995. "Fiber miles" are calculated by multiplying the number of miles of fiber cable -- including both lit fiber (i.e., fiber that has been activated to carry telecommunications by the addition of optoelectronic equipment) and dark fiber (i.e., fiber that has not yet been activated) -- by the number of fiber strands per cable.

At the end of 1996, therefore, new local service competitors had approximately 10% of the total fiber optic systems capacity, as measured by fiber miles, that apparently is or could be activated to carry calls within local telecommunications markets and to deliver calls to long distance carriers. This comparison of relative fiber deployment may overstate the relative size of new local service competitor networks, however, because the transmission networks of the incumbent local telephone companies consist predominantly -- as much as 90%, by some estimates -- of copper-based facilities. The Commission collects no information on the extent to which the fiber optic transmission systems of new local service competitors are activated to carry telephone calls, and in this respect as well they may differ from the incumbent local telephone companies.

Facilities Investment of New Local Service Competitors:
Equipment Installed in Incumbent Local Telephone Company Central Offices.

New local service competitors may more effectively compete in local telephone service markets -- and, in particular, may more effectively compete for the mass, or residential, market -- if they are able to locate their own transmission equipment near the incumbent local telephone company central office (i.e., telephone network switch) that directly serves a customer that the new competitor seeks to serve. The Commission first ordered such "collocation" arrangements to be made available for the provision of competitive access services (i.e., connecting customers directly to long distance telephone companies). In addition, the Telecommunications Act of 1996 requires incumbent local telephone companies, with a few exceptions for small companies, to provide collocation arrangements in a form that will enable a new local service competitor to use

portions of the incumbent company's network (e.g., the telephone line that runs to the customer's home or business) to compete against the incumbent company.

The Commission required the largest incumbent local telephone companies to report, in 1995 and 1997, which of their central offices have collocation arrangements, and to identify the competitors using such collocation arrangements. Table 9.2 shows that the number of incumbent telephone company central offices with collocation arrangements increased between 1995 and 1997. The table also demonstrates that the number of new local service competitors using collocation arrangements increased between the two years. As detailed in the notes to Table 9.2, the reporting incumbent telephone companies used different definitions (e.g., operational arrangements *versus* arrangements that are operational or in progress *versus* requested arrangements) when reporting collocation arrangements in a single year, and in some cases a company used different definitions in its filings in the two reporting years. Neither the incumbent telephone companies nor the new local service competitors are required to report the extent to which the reported collocation arrangements are being used to carry telephone calls within local areas, as opposed to connecting calls to long distance carriers. Using data in Table 9.2 to compare the development of local service competition in the areas served by different incumbent local telephone companies may be misleading, therefore, and these data should not be summed up for the incumbent companies.

TABLE 9.1

NATIONWIDE LOCAL SERVICE REVENUES* AND NEW COMPETITOR SHARE
(Dollar Amounts Shown in Millions)

	1993	1994	1995	1996	Average Annual Growth 1993-1996**
1 Number of CAPs/CLECs***	20	30	57	109	76.0%
2 CAP/CLEC Local Service Revenues	$178	$281	$595	$949	74.7%
3 Bell Company# Local Service Revenues	$58,838	$61,415	$65,485	$70,290	6.1%
4 Local Service Revenues of Other Incumbent Local Telephone Companies	$20,828	$23,424	$24,269	$24,899	6.1%
5 All Other Local Service Revenues##	$850	$1,298	$388	$379	###
6 Nationwide Local Service Revenues (line 2 + line 3 + line 4 + line 5)	$80,694	$86,418	$90,737	$96,517	6.2%
7 CAP/CLEC Share of Nationwide Local Service Revenues (line 2 / line 6)	0.2%	0.3%	0.7%	1.0%	

Notes to Table 9.1 appear on the following page.